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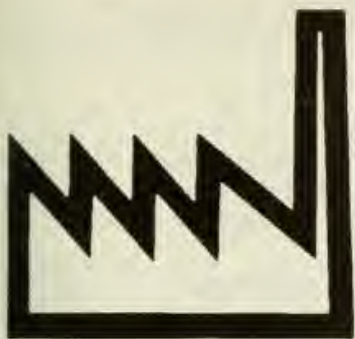
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PRELIMINARY REPORT
INDUSTRY SERIES

1987
Census of
Manufactures

MC87-I-39C(P)
Issued April 1989

OFFICE SUPPLIES, COSTUME JEWELRY AND NOTIONS

Industries 3951, 3952, 3953, 3955, 3961, and 3965

INTRODUCTION

This report presents preliminary statistics from the 1987 Census of Manufactures for those establishments classified in the industries listed above. These data will be superseded by a more comprehensive final paperbound report. The method of data collection and use of administrative data are discussed in detail in the appendix.

All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The definitions of these industries are the same as those used in the 1987 Standard Industrial Classification (SIC) Manual.¹

INDUSTRY 3951, PENS AND MECHANICAL PENCILS

In the 1987 Census of Manufactures, Industry 3951, Pens and Mechanical Pencils, had employment of 8.5 thousand. The employment figure was 27 percent below the 11.6 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$860.6 million.

The cost of materials and services used by establishments in this industry amounted to \$341.6 million in 1987. Data on specific materials consumed appear in table 3.

¹Standard Industrial Classification Manual: 1987. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

INDUSTRY 3952, LEAD PENCILS AND ART GOODS

In the 1987 Census of Manufactures, Industry 3952, Lead Pencils and Art Goods, had employment of 5.6 thousand. The employment figure was 7 percent below the 6.0 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$608.0 million.

The cost of materials and services used by establishments in this industry amounted to \$251.7 million in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3953, MARKING DEVICES

In the 1987 Census of Manufactures, Industry 3953, Marking Devices, had employment of 7.4 thousand. The employment figure was 3 percent below the 7.6 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$420.8 million.

The cost of materials and services used by establishments in this industry amounted to \$155.2 million in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3955, CARBON PAPER AND INKED RIBBONS

In the 1987 Census of Manufactures, Industry 3955, Carbon Paper and Inked Ribbons, had employment of 7.1 thousand. The employment figure was 3 percent above the 6.9 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$649.2 million.

Address inquiries to Bureau of the Census, Industry Division, Washington, DC 20233, or call Ric Williamson (301) 763-7304.

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The cost of materials and services used by establishments in this industry amounted to \$339.9 million in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3961, COSTUME JEWELRY

In the 1987 Census of Manufactures, Industry 3961, Costume Jewelry, had employment of 21.4 thousand. The employment figure was 1 percent above the 21.1 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$1.3 billion.

The cost of materials and services used by establishments in this industry amounted to \$526.6 million in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3965, FASTENERS, BUTTONS, NEEDLES, AND PINS

In the 1987 Census of Manufactures, Industry 3965, Fasteners, Buttons, Needles, and Pins, had employment of 9.3 thousand.

The total value of shipments for establishments classified in this industry was \$648.5 million.

The cost of materials and services used by establishments in this industry amounted to \$273.7 million in 1987. Data on specific materials consumed appear in table 3.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in the tables in this publication:

– Represents zero.

(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(NC)	Not comparable.
(S)	Withheld because estimate did not meet publication standards on the basis of either the response rate or a consistency review.
(X)	Not applicable.
(Z)	Less than half the unit shown.
do	Ditto.
n.e.c.	Not elsewhere classified.
n.s.k.	Not specified by kind.
pt.	Part.
r	Revised.
SIC	Standard Industrial Classification.

Other abbreviations, such as lb, gal, yd, doz, bbl, and s tons, are used in the customary sense.

CONTACTS FOR DATA USERS

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Census/ASM		
Durables	Kenneth Hansen	(301) 763-7304
Nondurables	Michael Zampogna	(301) 763-2510
Current Industrial Reports		
Durables	Malcolm Bernhardt	(301) 763-2518
Nondurables	Thomas Flood	(301) 763-5911
Import/Export Publications	Foreign Trade Division	(301) 763-5140
Industry Analysis and Forecasts	International Trade Administration	(202) 377-4356

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix.]

Year ¹	Companies ² (no.)	All establishments ³		All employees		Production workers			Value added by manufac- ture ⁴ (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expend- itures (million dollars)	End-of- year inventor- ies ⁴ (million dollars)	Ratios	
		Total (no.)	With 20 employ- ees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						Spe- cial- ization (per- cent)	Cover- age (per- cent)
INDUSTRY 3951, PENS AND MECHANICAL PENCILS															
1987 Census	(NA)	106	53	8.5	173.9	6.4	12.5	109.2	515.1	341.6	860.6	25.0	167.2	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	8.2	151.9	6.2	12.0	100.0	444.3	312.6	757.9	19.6	143.3	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	8.9	160.9	6.7	12.4	103.6	419.8	323.7	746.9	20.1	148.0	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	9.6	172.8	7.3	13.3	111.8	519.6	356.7	860.9	18.4	159.9	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	9.4	158.2	7.1	13.7	94.7	448.6	311.1	785.7	22.0	135.9	(NA)	(NA)
1982 Census	129	136	69	11.6	174.8	8.8	16.8	112.3	472.6	346.6	809.4	27.8	172.0	91	86
1981 ASM	(NA)	(NA)	(NA)	16.0	217.5	12.5	23.6	148.4	608.1	494.4	1 096.4	26.5	194.5	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	15.4	193.2	12.1	23.3	135.5	566.7	442.2	995.0	44.0	184.8	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	14.8	175.5	11.7	22.6	122.8	568.1	357.1	913.6	39.7	157.9	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	14.1	153.0	11.5	22.9	107.8	485.9	291.7	767.1	37.4	138.5	(NA)	(NA)
1977 Census	133	141	78	13.2	135.6	10.4	20.6	92.9	419.8	257.4	669.8	32.8	123.1	85	94
1976 ASM	(NA)	(NA)	(NA)	11.9	108.8	9.2	17.4	75.1	310.1	180.1	482.5	19.6	94.5	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	10.7	98.6	8.3	15.4	61.8	240.7	156.8	400.6	19.2	86.3	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	10.9	95.2	8.5	16.1	60.9	231.4	148.1	370.1	19.5	86.0	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	11.2	89.1	8.7	17.0	57.5	243.6	116.8	353.4	12.9	68.3	(NA)	(NA)
1972 Census	112	117	64	10.9	81.9	8.5	16.4	52.6	213.7	104.9	310.5	7.6	56.8	92	91
INDUSTRY 3952, LEAD PENCILS AND ART GOODS															
1987 Census	(NA)	142	39	5.6	103.0	4.0	7.7	58.0	360.8	251.7	608.0	21.3	127.8	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	5.4	101.1	4.0	7.9	62.0	315.4	239.8	547.0	12.9	111.7	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	5.6	97.9	4.1	8.2	56.7	293.3	214.1	510.8	14.7	104.9	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	5.8	94.5	4.2	8.2	54.2	270.7	213.8	484.2	15.6	106.2	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	6.2	91.3	4.5	8.5	53.2	270.1	221.5	487.7	13.6	112.1	(NA)	(NA)
1982 Census	144	148	43	6.0	87.5	4.3	8.0	48.6	244.8	199.4	445.9	16.2	106.3	79	88
1981 ASM	(NA)	(NA)	(NA)	5.3	71.8	3.8	7.3	42.0	215.7	176.4	383.0	7.7	90.7	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	5.5	69.0	4.1	7.4	39.8	189.9	165.9	352.6	7.0	85.3	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	6.3	68.4	4.6	8.5	39.6	180.6	167.3	342.8	8.0	84.1	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	6.3	62.7	4.6	8.9	36.2	161.4	156.9	315.1	10.6	77.2	(NA)	(NA)
1977 Census	127	134	46	6.6	63.1	4.7	9.2	37.6	145.5	134.0	275.9	10.8	70.9	85	79
1976 ASM	(NA)	(NA)	(NA)	7.6	63.1	5.2	10.2	36.5	132.3	123.4	268.4	9.5	72.5	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	7.5	60.2	5.2	9.7	34.0	118.5	116.0	235.6	5.4	64.5	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	8.5	59.9	6.3	12.2	34.7	120.2	110.9	222.0	5.8	66.8	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	7.0	53.7	5.2	10.1	31.7	114.0	103.1	212.5	5.9	52.6	(NA)	(NA)
1972 Census	136	144	49	7.1	50.0	5.1	10.4	28.6	108.2	90.8	198.8	3.9	43.9	83	88
INDUSTRY 3953, MARKING DEVICES															
1987 Census	(NA)	627	90	7.4	133.2	4.8	9.2	72.1	265.6	155.2	420.8	9.4	53.0	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	5.9	92.1	3.7	7.6	49.5	186.8	84.0	271.7	⁵ 16.8	29.8	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	6.7	97.5	4.4	9.0	60.4	186.1	79.7	273.2	⁵ 6.9	33.8	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	7.1	111.2	4.8	9.3	73.0	228.3	115.8	348.8	⁵ 15.8	45.0	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	7.3	101.3	5.2	9.4	63.0	209.3	119.8	327.4	⁵ 6.0	48.6	(NA)	(NA)
1982 Census	593	627	88	7.6	107.1	5.5	10.2	65.7	221.4	119.0	337.6	7.6	50.7	94	90
1981 ASM	(NA)	(NA)	(NA)	6.6	90.0	4.4	9.4	50.8	204.8	97.0	301.3	7.5	45.3	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	6.6	85.9	4.3	8.9	47.4	190.1	92.7	281.7	11.4	42.7	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	7.4	89.2	4.8	10.0	48.6	190.4	100.0	287.0	14.4	41.9	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	7.1	80.8	4.5	9.0	43.3	155.8	99.5	252.6	8.3	35.1	(NA)	(NA)
1977 Census	583	612	86	7.4	78.7	4.7	9.1	39.6	160.0	90.3	248.7	5.5	34.3	85	88
1976 ASM	(NA)	(NA)	(NA)	8.3	78.3	5.6	10.6	39.8	151.8	97.2	247.6	12.5	42.0	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	8.4	75.9	5.6	10.8	39.2	141.7	95.4	237.5	4.4	41.5	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	8.2	72.9	5.4	10.6	38.9	151.4	86.0	234.2	4.5	41.9	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	9.1	69.1	6.3	12.1	40.6	146.2	69.6	214.5	5.5	25.4	(NA)	(NA)
1972 Census	584	621	99	8.1	63.2	5.5	10.7	36.0	121.5	60.1	180.0	2.6	21.1	90	91
INDUSTRY 3955, CARBON PAPER AND INKED RIBBONS															
1987 Census	(NA)	121	61	7.1	130.8	5.3	10.2	78.7	303.2	339.9	649.2	15.8	83.9	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	6.4	118.9	5.0	10.3	76.8	278.1	349.6	621.8	17.5	82.6	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	6.3	112.7	4.8	9.5	71.6	243.8	353.7	612.5	⁵ 16.6	75.3	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	6.9	118.5	5.2	10.3	74.9	308.6	361.1	661.6	22.2	101.0	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	7.1	127.9	5.4	10.7	83.4	361.9	516.5	849.7	13.1	164.2	(NA)	(NA)
1982 Census	93	115	67	6.9	115.4	5.2	10.3	77.6	324.1	463.5	778.8	23.1	125.5	83	73
1981 ASM	(NA)	(NA)	(NA)	4.9	86.3	3.6	7.2	56.3	255.1	399.3	646.4	14.1	90.4	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	5.8	89.3	4.3	8.5	56.8	224.4	363.4	580.5	18.0	91.0	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	5.2	71.7	3.9	8.1	44.4	170.0	267.7	433.3	9.5	67.4	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	4.4	57.0	3.3	6.6	33.1	152.5	217.9	364.2	7.1	58.0	(NA)	(NA)
1977 Census	78	100	51	4.6	53.7	3.4	6.9	33.1	142.4	205.4	344.0	6.2	47.8	96	64
1976 ASM	(NA)	(NA)	(NA)	3.9	45.8	2.7	5.6	28.4	120.4	174.3	294.5	5.3	41.1	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	4.3	46.0	2.9	5.7	23.7	123.3	161.0	285.4	4.6	40.6	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	5.5	54.3	3.8	7.5	31.2	133.9	178.1	309.0	4.5	49.0	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	5.8	53.0	4.1	8.1	30.9	112.8	154.9	268.1	6.7	41.4	(NA)	(NA)
1972 Census	70	84	51	5.2	49.1	3.8	7.8	27.9	113.4	123.4	237.5	5.7	36.7	90	61
INDUSTRY 3961, COSTUME JEWELRY															
1987 Census	(NA)	748	193	21.4	314.9	14.3	27.0	165.1	768.5	526.6	1 296.4	10.8	187.2	94	89
1986 ASM	(NA)	(NA)	(NA)	18.5	303.1	12.7	26.7	168.2	782.4	509.3	1 292.3	⁵ 19.0	188.1	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	18.7	292.5	13.5	27.0	171.3	762.7	512.5	1 265.0	⁵ 19.9	187.5	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	20.5	292.8	14.6	29.0	176.8	712.8	487.4	1 185.8	13.1	177.1	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	23.3	290.0	17.3	31.6	167.5	674.4	536.2	1 216.1	26.2	188.8	(NA)	(NA)
1982 Census	780	785	186	21.1	263.3	15.7	29.4	158.0	588.9	414.5	1 027.1	16.6	175.1	93	90
1981 ASM	(NA)	(NA)	(NA)	23.4	258.4	18.0	34.0	162.7	557.0	449.3	990.7	11.3	166.3	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	23.4	249.4	17.7	33.0	158.3	546.9	450.9	989.4	18.9	164.5	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	22.4	219.3	18.3	32.4	140.6	480.4	397.7	857.6	13.5	138.5	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	24.4	218.2	19.6	35.4	143.0	493.2	355.5	846.9	24.1	131.3	(NA)	(NA)

See footnotes at end of table.

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years—Con.

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix.]

Year¹	Companies² (no.)	All establishments³		All employees		Production workers			Value added by manufac- ture⁴ (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expendi- tures (million dollars)	End-of- year invento- ries⁴ (million dollars)	Ratios	
		Total (no.)	With 20 employ- ees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						Special- ization (per- cent)	Cover- age (per- cent)
INDUSTRY 3961, COSTUME JEWELRY—Con.															
1977 Census ----	837	847	236	25.0	215.9	20.8	36.1	136.1	485.1	338.9	816.6	17.6	119.6	92	89
1976 ASM -----	(NA)	(NA)	(NA)	22.9	186.7	19.2	34.1	119.9	405.1	296.0	695.1	20.0	104.9	(NA)	(NA)
1975 ASM -----	(NA)	(NA)	(NA)	21.9	167.9	18.8	34.0	105.6	448.7	289.8	737.4	9.6	97.9	(NA)	(NA)
1974 ASM -----	(NA)	(NA)	(NA)	20.1	143.1	16.9	30.3	91.2	332.1	235.8	561.0	10.0	88.8	(NA)	(NA)
1973 ASM -----	(NA)	(NA)	(NA)	22.3	142.9	18.6	33.4	90.3	278.9	215.2	487.3	7.4	78.9	(NA)	(NA)
1972 Census ----	764	766	208	21.4	132.1	17.6	32.1	82.2	275.7	198.2	471.6	6.7	67.8	93	90
INDUSTRY 3965, FASTENERS, BUTTONS, NEEDLES, AND PINS⁶															
1987 Census ----	(NA)	229	94	9.3	163.8	7.4	14.6	106.9	376.0	273.7	648.5	20.1	112.6	(NA)	(NA)
1986 ASM -----	(NA)	(NA)	(NA)	12.4	215.6	9.8	18.5	141.3	480.4	388.6	869.7	30.9	148.9	(NA)	(NA)
1985 ASM -----	(NA)	(NA)	(NA)	14.3	240.6	11.2	22.3	158.0	557.7	408.4	964.4	37.7	175.6	(NA)	(NA)
1984 ASM -----	(NA)	(NA)	(NA)	15.0	233.0	11.8	23.9	151.9	526.7	402.8	921.5	77.6	166.4	(NA)	(NA)
1983 ASM -----	(NA)	(NA)	(NA)	14.8	216.5	11.5	22.7	144.7	497.1	360.3	842.8	42.8	165.4	(NA)	(NA)
1982 Census ----	333	356	132	16.1	212.5	12.7	25.7	143.9	446.6	370.5	823.0	41.6	159.7	(NA)	(NA)
1981 ASM -----	(NA)	(NA)	(NA)	16.9	206.4	13.3	25.9	147.0	462.7	417.1	872.3	36.6	154.4	(NA)	(NA)
1980 ASM -----	(NA)	(NA)	(NA)	18.7	218.5	14.7	28.7	154.0	438.4	393.3	836.5	27.8	139.8	(NA)	(NA)
1979 ASM -----	(NA)	(NA)	(NA)	18.9	201.8	14.6	28.7	139.7	424.0	354.5	775.9	48.1	136.4	(NA)	(NA)
1978 ASM -----	(NA)	(NA)	(NA)	21.2	212.7	17.0	32.8	142.9	453.5	343.7	790.8	27.6	131.6	(NA)	(NA)
1977 Census ----	399	434	164	20.9	196.4	16.6	32.2	131.8	425.4	345.9	769.4	23.4	125.5	(NA)	(NA)
1976 ASM -----	(NA)	(NA)	(NA)	20.0	169.5	15.4	29.8	112.9	409.2	306.2	702.6	22.0	109.4	(NA)	(NA)
1975 ASM -----	(NA)	(NA)	(NA)	18.4	151.6	14.4	27.0	97.5	330.6	269.5	612.4	10.9	97.8	(NA)	(NA)
1974 ASM -----	(NA)	(NA)	(NA)	20.0	155.2	15.8	30.1	102.6	346.5	268.0	605.2	17.2	117.1	(NA)	(NA)
1973 ASM -----	(NA)	(NA)	(NA)	23.2	165.4	18.3	34.9	109.5	372.6	265.0	629.4	21.9	115.8	(NA)	(NA)
1972 Census ----	424	453	176	24.2	164.4	19.3	38.0	112.2	386.3	282.9	668.4	23.5	106.7	(NA)	(NA)

Note: Establishments of single unit companies with up to 20 employees (cutoff varied by industry) were excluded from the mail portion of the census. Data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were estimated based on administrative-record information from other agencies in conjunction with industry averages. These establishments accounted for the following percent of total value of shipments: SIC 3951, 3%; SIC 3952, 6%; SIC 3953, 24%; SIC 3955, 6%; SIC 3961, 12%; and SIC 3965, 10%.

¹In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1972, see 1972 Census of Manufactures, vol. II, table 1a of the industry chapter.

²For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

³Includes establishments with payroll at any time during year.

⁴Beginning with the 1982 Census of Manufactures, all respondents were requested to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior Censuses and annual surveys of manufactures in which respondents were permitted to value their inventories using any generally accepted accounting method. Consequently, inventories and value added by manufacture are not comparable to prior-year data.

⁵Estimates for new capital expenditures have associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

⁶Industry definition is new for 1987 Census of Manufactures. An explanation of the Standard Industrial Classification revision will appear in the final industry series text that supercedes this report.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text.]

1987 product code	Product	1987		1982	
		Number of companies with shipments of \$100,000 or more	Product shipments ¹	Number of companies with shipments of \$100,000 or more	Product shipments ¹
			Quantity ²		Value (million dollars)
3951--	PENS AND MECHANICAL PENCILS				
	Total	(NA)	(X)	923.5	(NA)
39511 --	Ballpoint and roller pens:				
39511 00	Ballpoint and roller pens	41	(X)	408.8	54
39512 --	Markers, fine point and broadtipped:				
39512 00	Markers, fine point and broadtipped	27	(X)	224.2	39
39513 --	Other pens, mechanical pencils, desk sets, and pen and pencil parts:				
39513 00	Other pens, mechanical pencils, desk sets, and pen and pencil parts	50	(X)	263.3	44
39510 --	Pens and mechanical pencils, n.s.k.	(NA)	(X)	27.2	(NA)
39510 00	Pens and mechanical pencils, n.s.k., typically for establishments with 20 employees or more (see note)	(NA)	(X)	6.9	(NA)
39510 02	Pens and mechanical pencils, n.s.k., typically for establishments with less than 20 employees (see note)	(NA)	(X)	20.3	(NA)

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
3952- —	LEAD PENCILS, CRAYONS, AND ARTISTS' MATERIALS						
	Total	(NA)	(X)	455.4	(NA)	(X)	352.7
39523 — 39523 00	Wood-cased pencils, crayons, and chalk; Wood-cased pencils, crayons, and chalk	21	(X)	213.3	(NA)	(X)	(NA)
39524 — 39524 13	Artists' equipment	(NA)	(X)	215.3	(NA)	(X)	(NA)
39524 19	Artists' equipment, including children's school art equipment, airbrushes, drawing tables and boards, palettes, sketch boxes, pantographs, pyrography goods (excluding artists' crayons and other art materials)	19	(X)	76.2	30	(X)	73.0
39524 00	Other art materials, including modeling clay and other modeling material, chalk, water colors, tempera colors, finger paint, and block printing ink	36	(X)	138.2	(NA)	(X)	(NA)
39520 — 39520 00	Artists' equipment, n.s.k.	(NA)	(X)	1.0	(NA)	(X)	4.1
39520 02	Lead pencils, crayons, and chalk, n.s.k.	(NA)	(X)	26.7	(NA)	(X)	23.7
	Lead pencils, crayons, and artists' materials, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	(X)	5.9	(NA)	(X)	7.0
	Lead pencils, crayons, and artists' materials, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	(X)	20.8	(NA)	(X)	16.7
3953- —	MARKING DEVICES						
	Total	(NA)	(X)	427.5	(NA)	(X)	326.9
39530 — 39530 00	Hand stamps, stencils, and other marking devices: Hand stamps, stencils, and other marking devices	262	(X)	388.6	286	(X)	295.1
39530 02	Marking devices, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	38.9	(NA)	(X)	31.8
3955- —	CARBON PAPER AND INKED RIBBONS						
	Total	(NA)	(X)	686.0	(NA)	(X)	793.6
39551 — 39551 00	Inked ribbons, all types: Inked ribbons, all types	48	(X)	475.5	42	(X)	485.3
39552 — 39552 00	Carbon paper, stencil paper, etc.: Carbon paper, stencil paper, etc.	21	(X)	171.5	42	(X)	282.0
39550 — 39550 00	Carbon paper and inked ribbons, n.s.k.	(NA)	(X)	39.1	(NA)	(X)	26.3
39550 02	Carbon paper, stencil paper, and inked ribbons, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	(X)	6.9	(NA)	(X)	12.5
	Carbon paper, stencil paper, and inked ribbons, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	(X)	32.2	(NA)	(X)	13.8
3961- —	COSTUME JEWELRY						
	Total	(NA)	(X)	1 172.8	(NA)	(X)	948.6
39610 —	Costume jewelry and costume novelties, except precious metal: Base metal, whether or not electroplated with gold, silver, chromium, etc.:						
39610 11	Rings and ring mountings	28	(X)	71.0	42	(X)	130.3
39610 21	Men's jewelry (excluding watch attachments and rings)	29	(X)	56.0	30	(X)	30.5
39610 31	Women's and children's jewelry and costume novelties (excluding watch attachments and rings)	162	(X)	625.0	181	(X)	429.2
39610 41	Watch attachments (bracelets for watches)	4	(X)	77.2	32	(X)	82.8
39610 51	Fraternal, college, and school jewelry and emblems, including military insignia (excluding rings)	30	(X)	2.6			
39610 65	Cuff links and studs	7	(X)				
39610 71	Other jewelry worn or carried about the person, including religious jewelry, excluding cigar and cigarette cases and lighters, compacts, and vanity cases	33	(X)	46.8	44	(X)	34.3
39610 93	Compacts and vanity cases of base metal	3	(X)	27.3	10	(X)	74.7
39610 95	Compacts and vanity cases, other than metal or all leather	4	(X)				
39610 99	Other costume jewelry, imitation pearls, and costume novelties made of plastics, wood, leather, etc.	50	(X)	87.7	(NA)	(X)	44.8
39610 00	Costume jewelry, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	119.8	(NA)	(X)	90.6
39610 02	Costume jewelry, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	59.5	(NA)	(X)	31.5

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text.]

1987 product code	Product	1987			1982		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
3965--	FASTENERS, BUTTONS, NEEDLES, AND PINS						
	Total -----	(NA)	(X)	662.3	(NA)	(X)	749.4
39651 --	Buttons and parts (except for precious or semiprecious metals and precious or semiprecious stones) -----	(NA)	(X)	157.8	(NA)	(X)	142.5
39651 01	Metal: Sew-on type ----- million gross--	10	(S)	41.7	12	(S)	36.4
39651 09	Other metal buttons, including mechanically applied types, etc. ----- do..	10	(S)	48.5	20	(S)	24.0
39651 11	Plastics: Polyester ----- million gross--	8	(S)	29.8	9	(S)	34.2
39651 19	Other plastics, including casein ----- do..	4	(S)	16.9	11	(S)	15.7
39651 21	Button blanks or molds, backs and parts for sale as such -----	2			7	(X)	8.6
39651 29	Other buttons, fabrics covered, wood, bone and hoof, vegetable, ivory, leather, pearl or shell, etc. ----- million gross--	6	(S)	4.3	11	(X)	7.8
39651 00	Buttons and parts (except for precious or semiprecious metals and precious or semiprecious stones), n.s.k. -----	(NA)	(X)	16.5	(NA)	(X)	15.9
39654 --	Zipper and slide fasteners -----	(NA)	(X)	190.5	(NA)	(X)	200.8
39654 22	Plastics: Nylon (when zippers or slide fasteners are sold in continuous chains; report each 12 in. as one unit) ----- million units--	6	(S)	54.4	16	(S)	53.9
39654 23	Other plastics (when zippers or slide fasteners are sold in continuous chain; report each 12 in. as one unit) ----- do..	4	(S)	51.5	8	(S)	47.8
39654 31	Metal: Aluminum ----- million units--	5	(S)	23.0	13	*215.6	24.6
39654 33	Brass ----- do..	6	(S)	43.3	11	(S)	54.6
39654 39	Other ----- do..	4	(S)	15.3	9	(S)	19.9
39654 00	Zipper and slide fasteners, n.s.k. -----	(NA)	(X)	3.0	(NA)	(X)	-
39656 --	Needles, pins, fasteners (except slide), and similar notions -----	(NA)	(X)	254.2	(NA)	(X)	364.4
39656 20	Snap fasteners (all types) ----- 1,000 great gross--	8	(S)	54.4	16	(S)	151.6
39656 21	Metal buckles for wearing apparel, including those covered with fabrics or other material, but excluding costume jewelry -----	20	(X)	66.7	31	(X)	76.7
39656 32	Other buckles (except shoe) -----	2			9	(X)	11.1
39656 33	Other fasteners, including tape fasteners, hooks and eyes, rivets and burrs, trimming, etc. -----	13			30		
39656 51	Hair curlers (except rubber and those designed for beauty parlor use) ----- 1,000 great gross--	2	(S)	75.7	2	(NA)	79.9
39656 71	Needles (except hypodermic, phonograph, and styli) ----- thousands--	4	(S)	12.7	8	(S)	19.9
39656 81	Pins (except jewelry): Common or toilet, including dressmakers' pins ----- 1,000 lb..	3	5 616.0	23.2	5	2 488.9	12.1
39656 89	Other pins, hatpins, glasshead pins, safety pins, plastics and metal hairpins ----- million gross--	7	(S)	18.6	7	*13.8	12.0
39656 00	Needles, pins, fasteners (except slide), and similar notions, n.s.k. -----	(NA)	(X)	2.8	(NA)	(X)	1.2
39650 --	Fasteners, buttons, needles, and pins, n.s.k. -----	(NA)	(X)	59.8	(NA)	(X)	41.7
39650 00	Fasteners, buttons, needles, and pins, n.s.k., typically for establishments with 20 employees or more (see note) -----	(NA)	(X)	28.4	(NA)	(X)	17.9
39650 02	Fasteners, buttons, needles, and pins, n.s.k., typically for establishments with less than 20 employees (see note) -----	(NA)	(X)	31.4	(NA)	(X)	23.8

Note: In 1987 Census of Manufactures, data for establishments of small single unit companies with up to 20 employees were estimated from administrative-record data rather than data actually collected from respondents. Employment cutoffs used for administrative records for each industry and shipments figures are included in code ending with "002". In both 1987 and 1982 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (five-digit) followed by "00" or to appropriate product group code (four-digit) followed by "000".

¹Data reported by all producers, not just those with shipments of \$100,000 or more.

²For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

³Industry definition is new for 1987 Census of Manufactures. For 1982, detail was reported under Industry 3963, Buttons and Industry 3964, Needles, Pins, and Fasteners.

Table 3. Materials Consumed by Kind: 1987 and 1982

[Includes cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987 delivered cost (million dollars)	1982 delivered cost (million dollars)
INDUSTRY 3951, PENS AND MECHANICAL PENCILS			
	Materials, parts, containers, and supplies -----	285.6	280.9
265001	Paperboard containers, boxes, and corrugated paperboard -----	20.1	7.9
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes -----	26.3	20.0
349940	Fabricated metal products -----	34.5	29.9
395101	Parts for pens and mechanical pencils -----	96.1	135.5
970099	All other materials and components, parts, containers, and supplies -----	94.3	52.6
971000	Materials, parts, containers, and supplies, n.s.k. ¹ -----	14.3	25.0
INDUSTRY 3952, LEAD PENCILS AND ART GOODS			
(Material data were not collected for this industry.)			
INDUSTRY 3953, MARKING DEVICES			
(Material data were not collected for this industry.)			

1987 material code	Material	1987		1982	
		Quantity ²	Delivered cost (million dollars)	Quantity ²	Delivered cost (million dollars)
INDUSTRY 3955, CARBON PAPER AND INKED RIBBONS					
	Materials, parts, containers, and supplies -----	(X)	312.7	(X)	371.8
220129	Broadwoven fabrics ----- mil lin yd..	(S)	21.6	(S)	18.9
224111	Woven narrow fabrics (less than 12 inch width) ----- do..	*1 147.4	24.6	*2 004.7	37.3
262106	Purchased (market) paper ----- 1,000 s tons..	*76.7	78.9	*85.5	88.9
265001	Paperboard boxes, containers, and corrugated paperboard -----	(X)	19.6	(X)	13.5
289501	Carbon black ----- mil lb..	(S)	4.5	*.1	16.8
289300	Printing ink ----- do..	(S)	14.4	(S)	10.2
970099	All other materials and components, parts, containers, and supplies -----	(X)	119.9	(X)	134.3
971000	Materials, parts, containers, and supplies, n.s.k. ¹ -----	(X)	29.3	(X)	51.9
INDUSTRY 3961, COSTUME JEWELRY					
(Material data were not collected for this industry.)					
INDUSTRY 3965, FASTENERS, BUTTONS, NEEDLES, AND PINS					
	Materials, components, parts, containers, and supplies -----	(X)	236.7	(X)	*319.1
Mill shapes and forms, except castings:					
331001	Carbon steel ----- 1,000 s tons..	(S)	15.7	(S)	14.6
331020	Alloy steel ----- do..	(S)	7.7		
331031	Stainless steel ----- do..	**1.7	4.9		
335001	Aluminum and aluminum-base alloy ----- mil lb..	(S)	10.5	(X)	59.9
335105	Copper and copper-base alloy ----- do..	(S)	39.4		
220101	Cotton and manmade fiber fabrics, broadwoven and narrow woven, including tape for zippers and other fasteners -----	(X)	19.2	(X)	(⁴)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes ----- mil lb..	(S)	18.0	(S)	34.5
396501	Needles, pins, fasteners, and similar materials purchased for further manufacture or assembly -----	(X)	21.1	(X)	9.2
970099	All other materials and components, parts, containers, and supplies -----	(X)	61.9	(X)	*160.5
971000	Materials, components, parts, containers, and supplies, n.s.k. ¹ -----	(X)	38.3	(X)	41.6

¹Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

²For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

³Industry definition is new 1987 Census of Manufactures. For 1982, detail was reported under Industry 3963, Buttons and Industry 3964, Needles, Pins, and Fasteners.

⁴For 1982, material code 220101 was combined with material code 970099 to avoid disclosing data for individual companies.



APPENDIX

Scope and Coverage and Explanation of Terms

GENERAL

The 1987 Census of Manufactures is the 32nd census of manufacturing establishments conducted in the United States. For 1987, it was conducted as part of the economic censuses, which included the censuses of mineral industries, construction industries, retail and wholesale trades, service industries, selected transportation activities, and minority-owned and women-owned businesses, under authority of title 13 of the United States Code. Title 13 specifies that an economic census be conducted every 5 years to cover years ending in 2 and 7.

SCOPE AND COVERAGE

Establishment Basis of Reporting

The census of manufactures is conducted on an establishment basis. All manufacturing establishments with one paid employee or more at any time during the year are covered by the census of manufactures. Therefore, a company operating at more than one location is required to file a separate report for each location. This report excludes information for separately operated administrative offices, warehouses, garages, and other auxiliary units which service manufacturing establishments of the same company. Where these auxiliary operations are conducted at the same location as the manufacturing operation, they are usually included in the report for the operating manufacturing establishment.

Use of Administrative Records

From a universe of approximately 350,000 manufacturing establishments in the 1987 Census of Manufactures, approximately 150,000 small single-establishment companies were excused from filing reports. Selection of the small establishment nonmail cases was done on an industry-by-industry basis. A variable cutoff was used to determine those establishments for which administrative records were to be used in place of a census report. The cutoffs were selected so the administrative-record cases would account for approximately 3 percent or less of the value of shipments for the industry. These cutoffs were then adjusted so that all single-establishment companies with less than 5 employees were excluded from the mail canvass, while all establishments with more than 20 employees were included. Where establishments in the 5 to 20 employee size range were included in the mail canvass, an abbreviated census form was frequently used.

For these nonmail establishments, (and a small number of larger establishment whose reports were not received at the time the data were tabulated) data on employment, payroll, and receipts were obtained from administrative records of other government agencies rather than from census forms. The administrative-record information was then used in conjunction with industry averages to estimate the data for these establishments. The value of shipments and cost of materials were not distributed among specific products and materials but were included in the product and material "not specified by kind" (n.s.k.) categories.

EXPLANATION OF TERMS

Number of establishments and companies—A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

All employees—Includes all full-time and part-time employees on the payrolls at any time during the year. Included are all persons on paid sick leave, paid holidays, and paid vacations. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November.

Production workers—Includes workers up through the working-supervisor level engaged in fabricating, processing, assembling, inspecting, receiving, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial, guard services, product development, auxiliary production for plant's own use (e.g., power-plant), recordkeeping, and other closely associated services. Truckdrivers delivering ready-mixed concrete are also included in production workers.

Other employees—Includes nonproduction personnel, including those engaged in the following activities: supervision above working-supervisor level, sales (including driver/salespersons), sales delivery (truckdrivers and helpers), advertising, credit collection, installation and

servicing of own product, clerical and routine office functions, executive, purchasing, finance, legal, personnel (including cafeteria, etc.), professional, and technical employees.

Payroll—Includes the gross earnings for the “employees” defined above, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees’ Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. Respondents were told that in reporting they could follow the definition of payrolls used for calculating the Federal withholding tax.

Production-worker hours—Covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave when the employee was not at the plant.

Cost of materials—Refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuels consumed, regardless of whether they were purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

The important components of this cost item are (a) all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year; (b) electric energy purchased; (c) fuels consumed for heat, power, or generating electricity; (d) work done by others on materials or parts furnished by manufacturing establishments (contract work); and (e) products bought and resold in the same condition.

Specific materials consumed (table 3)—In addition to the total cost of materials which every establishment was required to report, information was also collected for most manufacturing industries on the consumption of major materials used in manufacturing. These inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers’ records. Establishments consuming less than a specified amount (usually \$10,000) of a specific material were not requested to report consumption of that material separately. Also, the cost of materials for the small establishments for which administrative records were used was estimated as “not specified by kind” (n.s.k.).

Value of shipments and other receipts—Generally refers to received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all

miscellaneous receipts such as receipts for contract work performed for others, installation and repair receipts, sale of scrap, and sale of products bought and resold without further processing. Included are all items made by or for the establishment from materials owned by it whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In a few industries, the value of production or value of work completed is used instead of value of shipments. These industries are identified in the introduction and are footnoted in table 1.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, that is, including not only the direct costs of production but also a reasonable proportion of “all other costs” (including company overhead and profit).

Shipments or production of individual products (table 2)—In the 1987 census, detailed shipment information was collected for approximately 11,000 individual products. These products are identified by a seven-digit code and are grouped into approximately 1,500 classes of products, which in turn are primary to 459 four-digit industries. Data at the five-digit product-class level have been collected each year as part of the annual survey of manufactures. Information at the seven-digit level, collected for many industries in the current industrial reports program, is not included in this table.

Value added by manufacture—This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments for products manufactured plus receipts for services rendered. The result of this calculation is then adjusted by the addition of value added by merchandising operations (that is, the difference between the sales value and cost of merchandise sold without further manufacturing, processing, or assembly) plus the net change in finished goods and work-in-process inventories between the beginning and end of the year.

For those industries where value of production is collected instead of value of shipments (see footnote in table 1), value added is adjusted only for the change in work-in-process inventories between the beginning and end of the year. For those industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

Value added avoids the duplication in the figure for value of shipments which results from the use of products of some establishments as materials by others. Value

added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

Expenditures for new plant and equipment—Establishments in operation and any known plants under construction were asked to report their expenditures for (a) permanent additions and major alterations to manufacturing establishments and (b) new machinery and equipment used for replacement and additions to plant capacity if they are of the type for which depreciation accounts are ordinarily maintained.

These totals exclude expenditures for used plant and equipment, expenditures for land, and cost of maintenance and repairs charged as current operating expenses. Data for used plant and equipment will be published in the final industry bulletin.

End-of-year inventories—Comprised of (a) finished products; (b) work-in-process; and (c) materials, supplies, fuels, etc. Beginning in 1982, respondents were asked to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior years in which respondents were permitted to value their inventories using any generally accepted accounting method.

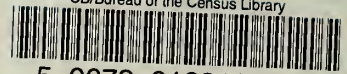
Therefore, 1982 through 1987 data for inventories are not strictly comparable to prior-year data.

Specialization and coverage ratios—An establishment is classified in a particular industry if its shipments of primary products of the industry exceed in value its shipments of the products of any other single industry. An establishments' shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). The following ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in table 1 and data on product shipments shown in table 2.

Specialization ratio—Represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio—Represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments, wherever classified.

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